

What we claim is:

1. A method for fast locating records on a data page in a database, comprising the steps of:

(1) setting a directory structure composed of a group of record deviations at the end of a data page, in which, a record deviation is a position deviation of a record on the data page; each directory in the directory structure is called dir_slot, and each dir_slot stores the position deviation of one record; and

(2) searching for relative records in the dir_slot by adopting a locating algorithm, after locating one certain dir_slot, searching the relative group of records in order according to the record deviation stored in the dir_slot and locating the record to be searched for accurately.

2. The method for fast locating record on a data page in a database of claim 1, further comprising the following steps of:

putting the record to be searched for into a field structure, and comparing the record on the data page with the field structure.

3. The method for fast locating record on a data page in a database of claim 2, which is characterized in:

first endowing two variables low and up which represent the number of dir_slot with initial values, in which, low is endowed with a value of 0, up is endowed with a value that is a total number of dir_slot on the page, then searching by adopting locating algorithm, and judging which dir_slot the record belongs to.

4. The method for fast locating record on a data page in a database of claim 1, 2 or 3, in which, said locating algorithm is dichotomizing locating algorithm.

5. The method for fast locating record on a data page in a database of claim 4, in which, said dichotomizing algorithm is to take out a medial value continuously to compare with the field structure, until the value of up-low is not more than 1.

6. The method for fast locating record on a data page in a database of claim 3 or 5,

which is characterized in:

after finding the record, selecting records orderly from dir_slot with the number of low to compare with the field structure, till the record next to this record is a up record up_rec of the dir_slot with the number of up; if the record is found during this process, finishing the search on this page; if the record is not found, turning to the next page to perform the same match.

7. The method for fast locating record on a data page in a database of claim 1, which is characterized in:

when the record number of dir_slot is full due to inserting of one record onto a data page in a database, splitting the current dir_slot into two ones, so as to increase a dir_slot.

8. The method for fast locating record on a data page in a database of claim 7, which is characterized in:

if the total number of records on the dir_slot where the record locates exceeds a maximum value after inserting the record into a chain table, moving all of the dir_slots behind this dir_slot one bit backward, thus, increasing one dir_slot, and dividing all the records on the dir_slot where this record belongs to into two parts, and attaching these two parts of records to the two dir_slots respectively.

9. The method for fast locating record on a data page in a database of claim 1, which is characterized in:

when deleting a record, taking it out from a chain table and setting a deleting mark to it.

10. The method for fast locating record on a data page in a database of claim 9, which is characterized in:

obtaining a dir_slot next to this dir_slot first, and judging the record number of the next dir_slot, if the record number exceeds a minimum value, taking out a record from the next dir_slot, and adding it to the current dir_slot; if the record number is less than or equal to the minimum value, combining these two dir_slots, and deleting the current

dir_slot.